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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,762	08/25/2003	Masatoshi Anma	026905-031	1261
21839	7590	06/27/2005	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			LEE, EUGENE	
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ALEXANDRIA, VA 22313-1404			PAPER NUMBER	

2815

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,762

Applicant(s)

ANMA, MASATOSHI

Examiner

Eugene Lee

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 12 is objected to because of the following informalities: it appears the limitation “inner surface” in line 2 of said claim is referring to the same structure as the limitation “reverse surface” in line 6 of claim 11. However, appropriate clarification and /or correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 thru 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the applicant is defining the limitation “roughness” and thus it is unclear how “roughness” can be defined quantitatively (as stated in the claim). Appropriate clarification and/or correction required.

Regarding claim 4, it is unclear what the applicant is referring to in the limitation “due to gains”. The limitation “gains” is not clearly defined and it is not known what would constitute a “gain” in surface roughness. It appears the applicant intended “grains”, however, appropriate clarification and/or correction is required.

Art Unit: 2815

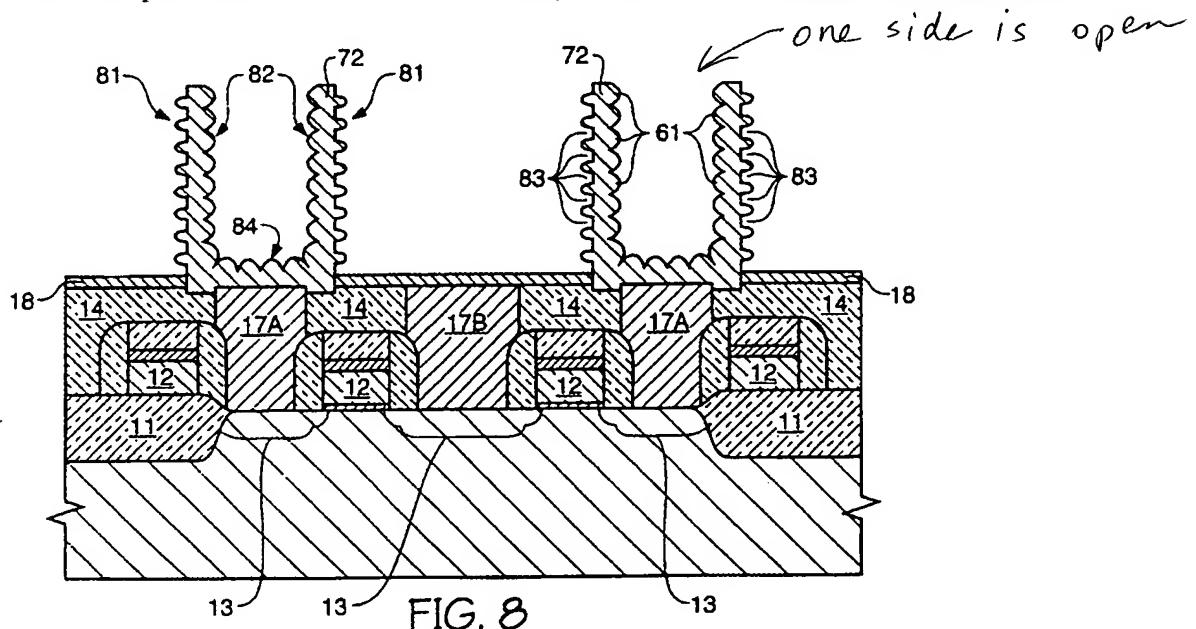
Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. In view of the 112 rejection above, claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Figura et al. 5,763,286. Figura discloses (see, for example, FIG. 8) a semiconductor device comprising a plate (electrode) 72, upper surface (flat plate portion) 84, outer perimetric surface 81, and inner perimetric surface 82. Figura clearly discloses the outer perimetric surface having more “roughness” than the inner perimetric surface in that the outer perimetric surface 81 has grains that have larger spaces in between and jut out (more roughness) as opposed to the inner perimetric surface which has larger, more smooth grains (less roughness).



Art Unit: 2815

6. Insofar as definite, claims 1 thru 4, and 11 thru 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. 5,913,119. Lin discloses (see, for example, FIG. 11) a capacitor (semiconductor device) comprising a storage node electrode (electrode) 20b. The surface “roughness” due to grains on an outer surface of the storage node electrode is larger than a surface roughness of an inner surface of the storage node electrode since the outer surface is hemispherical and the inner surface is flat.

Regarding claims 2-4, see, for example, FIG. 11 wherein Lin discloses a plate electrode (conductor film/conductive film) 24.

Regarding claim 11, Lin discloses (see, for example, FIG. 11) a capacitor (semiconductor device) comprising a storage node electrode (electrode) 20b. The surface area of the outer surface of the storage node electrode is larger than the reverse surface since the outside surface is hemispherical, and the reverse surface is flat.

Regarding claims 12-14, see, for example, FIG. 11 wherein Lin discloses a plate electrode (conductor film/conductive film) 24.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 thru 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Figura et al. ‘286 as applied to claim 1 above, and further in view of Sandhu et al. 5,754,390. Figura does

Art Unit: 2815

not disclose a conductor film being formed along the inner surface of said electrode. However, Sandhu discloses (see, for example, FIG. 8) a semiconductor device comprising a first electrode layer 22 and a conductive strap (conductive layer) 20. In column 4, lines 7-15, Sandhu discloses the strap improving the overall bottom electrode conductivity. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have a conductor film being formed along the inner surface of said electrode in order to improve the conductivity of the electrode.

Response to Arguments

9. Applicant's arguments with respect to claims 1-4, 11-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2815

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eugene Lee
June 23, 2005

A handwritten signature in black ink, appearing to be 'Eugene Lee', written in a cursive style.